

IN THE SPECIFICATION

Please amend the title of the application to read as follows:

REASSIGNING PHYSICAL CHANNELS OF A USER SERVICE
EXPERIENCING HIGH INTERFERENCE LEVELS IN A HYBRID WIRELESS
COMMUNICATION SYSTEM

Please replace paragraph [0024] with the following amended paragraph:

[0024] A measurement device 48 takes various measurements at the node-B 24, such as interference levels and reception power levels. These measurements are also relayed to the RNC 28. A transmitter 50 sends data and signaled information, such as channel assignments and a transmission power level of the node-B transmitter 24, to the UEs 22. The channel assignment device 44 determines a transmission power level for the node-B transmitter 50. Although the following discussion usually refers to an open loop power control algorithm, other power control algorithms, such as closed loop, outer loop or a combination, may be used. ~~The channel assignment device 44~~ A transmit power controller 54 controls the gain of an amplifier 52 to control the transmission power level. The transmitted signals pass through the isolator 42 and are radiated by the antenna 40.

Please replace paragraph [0025] with the following amended paragraph:

[0025] Figure 5 is a simplified UE 22 for use in RRM. An antenna 56 receives radio frequency signals over a radio channel from the node-B 24. The received signals are passed through an isolator 58 to a receiver 66 and a measurement device 68. A channel assignment detection device ~~[[44]]~~ 64 recovers the signaled information concerning the UE's channel assignments for both uplink and downlink. The receiver 66 may be a multiuser detection device (MUD), a RAKE or a different type of receiver.

Please replace paragraph [0026] with the following amended paragraph:

[0026] A measurement device 68 takes various measurements at the UE 22, such as interference levels and reception power levels. These measurements are also relayed to the RNC 28 by being transmitted to the node-B 24. A transmitter 70 sends data and signaled information, such as measurements, pathloss information and a transmission power level of the UE transmitter 70, to the node-B 24. A transmit power controller (TPC) 60 determines a transmission power level for the ~~node-B UE~~ transmitter ~~[[60]]~~ 70. The TPC 60 controls the gain of an amplifier 62 to control the transmission power level. The transmitted signals pass through the isolator 58 and are radiated by the antenna 56.

Please replace paragraph [0035] with the following amended paragraph:

[0035] One role of F-DCA is to determine resource units at link setup. Figure 7 is a flow chart for assigning resource units for a new UE 22 or new UE service. Physical channels are to be assigned to a CCTrCH (78). An estimation of the quality of each time slot with respect to interference and fragmentation is determined. The time slots are arranged in sequences of decreasing quality (80). One time slot quality measurement is a figure of merit, which is defined such as per Equation [[4]] 2.

$$F_i = -\alpha \cdot \Delta I_i + \beta \cdot f(C_i) \quad \text{Equation [[4]] } \underline{2}$$

F_i is the figure of merit for the i^{th} time slot. ΔI_i is a difference between a measured interference level, such as using ISCP, at the receiver for the time slot and a minimum measured interference for all of the time slots. As a result, the time slot having the minimum measured interference has a ΔI_i of zero. $f(C_i)$ is the allowed number of physical channels for the CCTrCH in the i^{th} time slot. α and β are weighting factors.

Please replace paragraph [0041] with the following amended paragraph:

[0041] Another role of F-DCA is reassigning physical channels to either reduce interference or decrease fragmentation (pack slots), referred to as the

“background operation.” The desire to reassign may be due to a UE [[32]] 22 ceasing a session and freeing up resources. It may also result from a suboptimal overall initial assignment or changes due to mobility or external causes.

Please replace paragraph [0043] with the following amended paragraph:

[0043] For reassigning downlink physical channels, a quality estimate, such as figure of merit, is determined for each downlink physical channel (78 and 94 of Figure 7B). One approach to determine a figure of merit is per Equation [[6]] 3.

$$F_i = -\tau \cdot \Delta I_i - \delta \cdot FR \quad \text{Equation [[6]] } \underline{3}$$

F_i is the figure of merit for the i^{th} channel. ΔI_i is the difference between the measured interference, such as ISCP, with respect to the i^{th} channel in its time slot and the measured interference for the channel having the lowest measured interference. FR is a gauge of the fragmentation of the physical channel. One equation to determine FR is per Equation [[7]] 4.

$$FR = \frac{\text{Total slots assigned to that channel's CCTrCH}}{\text{Number of physical channels in that channel's slot for that CCTrCH}} \quad \text{Equation}$$

[[7]] 4

τ and δ are weighting factors.

Please replace paragraph [0046] with the following amended paragraph:

[0046] One approach to determine the figure of merits is as follows. For the uplink, the figure of merit for each slot i is per Equation [[8]] 5.

$$F_i = -\alpha_{UL} \cdot \Delta I_i + \beta_{UL} \cdot f(C_i) \quad \text{Equation [[8]] } \underline{5}$$

Please replace paragraph [0047] with the following amended paragraph:

[0047] α_{UL} and β_{UL} are weighting ~~factors for~~ factors. ~~For the downlink. The~~ downlink, the figure of merit for each slot i is defined as per Equation [[9]] 6.

$$F_i = -\alpha_{DL} \cdot \Delta T_i + \beta_{DL} \cdot f(C_i) \quad \text{Equation [[9]] } \underline{6}$$

where ΔT_i is defined as $T_i - T_{\min}$. T_i is the measured node-B slot transmit power in slot i . T_{\min} is the lowest node-B transmit power among all the downlink slots. In the uplink/downlink, time slots are examined one by one in the order of increasing figure of merit.

Please replace paragraph [0053] with the following amended paragraph:

[0053] For the uplink time slots, since all physical channels in a time slot experience that same interference, the criteria for reassignment is the fragmentation gauge, FR. A high FR indicates high fragmentation and a low FR

indicates low fragmentation. The reassignment channels are arranged from highest FR to lowest (78 and 96 of Figure 7C). Although a reassignment analysis can be performed on all of the channels, ~~preferable~~ preferably only a threshold number with high FRs are selected. Alternately, the channels having their FR exceeding a threshold are selected. After ordering the candidate channels, the reassignment procedure occurs the same as for the downlink per Figure 7.